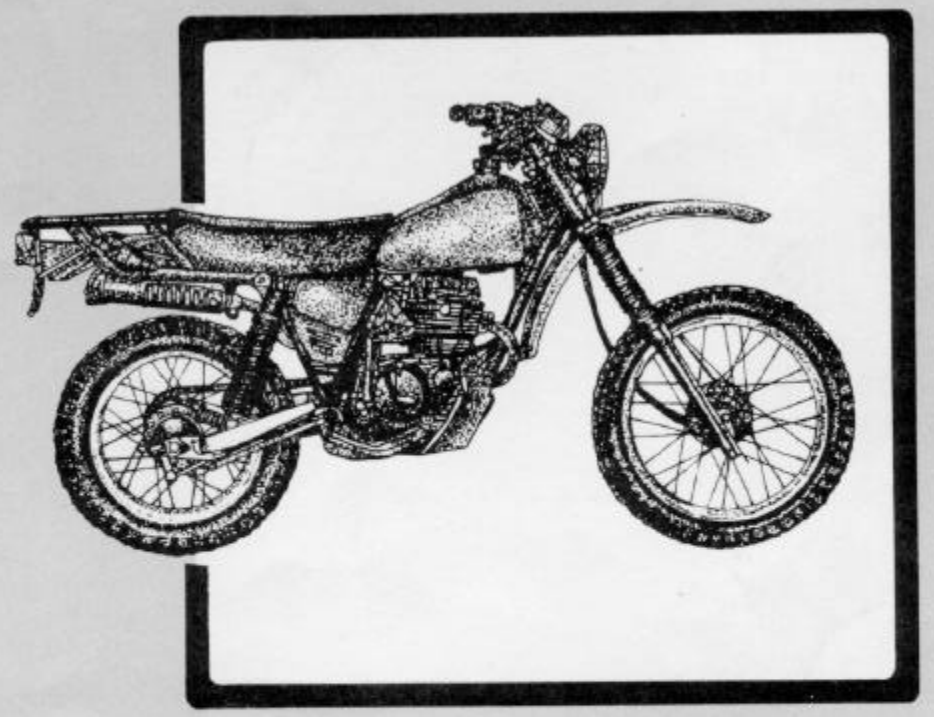
ARMY FM 10-577
AIR FORCE TO 13C7-55-1

AIRDROP OF SUPPLIES AND EQUIPMENT

RIGGING MOTORCYCLES



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TECHNICAL ORDER
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Washington, DC, 10 February 1986

AIRDROP OF SUPPLIES AND EQUIPMENT RIGGING MOTORCYCLES

Table of Contents

PREFACE

SCOPE

This manual is designed for use by all parachute riggers. This manual shows and tells how to prepare and rig the 250-to 300-cubic-centimeter Kawasaki or equivalent motorcycles. They are rigged for low-velocity airdrop from a C-130 or C-141 aircraft or for LAPE airdrop from a C-130 aircraft. They may be airdropped in the following ways:

- One or two motorcycles rigged on a CEP.
- One motorcycle rigged with one M561, 1 1/4-ton cargo truck on a 20-foot, type II, modular airdrop platform or a LAPES modular airdrop platform.

USER INFORMATION

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10 February 1986

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CHAPTER 1
INTRODUCTION

1-1. Description of Items

a. The motorcycle is 35 inches wide, 49 inches high, and 88 inches long. It weighs 275 pounds.

b. The M561, 1 1/4-ton cargo truck is 84 inches wide and 227 inches long. The height is 91 inches (reducible to 71 inches). The M561 weighs 7,300 pounds.

1-2. Special Considerations

a. The loads covered in this manual may include hazardous materials as defined in AFR 71-4/TM 38-250. If hazardous materials are included, they must be packaged, marked, and labeled as required by AFR 71-4/ TM 38-250.

CAUTION: ONLY AMMUNITION LISTED IN FM 10-553/TO 13C7-18-41 MAY BE AIRDROPPED.

b. A copy of this manual must be available to the joint airdrop inspectors during the before- and after-loading inspections.

CHAPTER 2

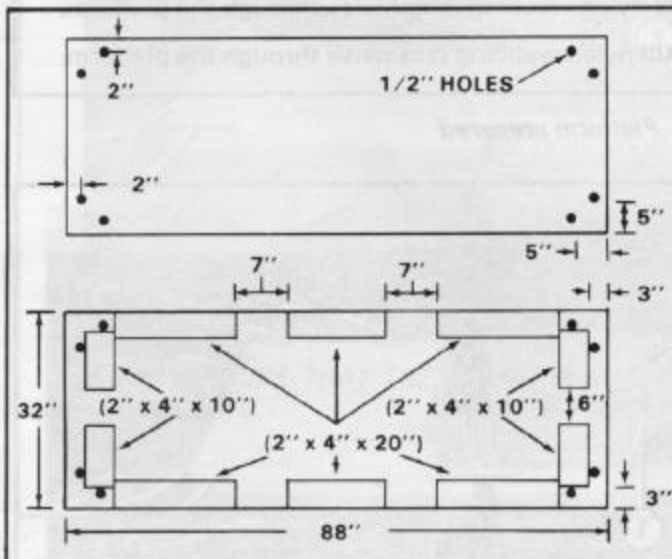
RIGGING ONE MOTORCYCLE FOR LOW-VELOCITY AIRDROP

2-1. Description of Load

The motorcycle is rigged on a 32- by 88-inch CEP with one G-13, G-14, or T-10C cargo parachute. The load is rigged for a low-velocity, over-the-ramp airdrop from a C-130 or C-141 aircraft.

2-2. Building and Preparing Combat-Expendable Platform

a. Build a 32- by 88-inch CEP as shown in Figure 2-1.



Materials used:
Two 3/4- by 32- by 88-inch pieces of plywood
Four 2- by 4- by 10-inch pieces of lumber
Six 2- by 4- by 20-inch pieces of lumber

NOTE: NOT DRAWN TO SCALE

Step:

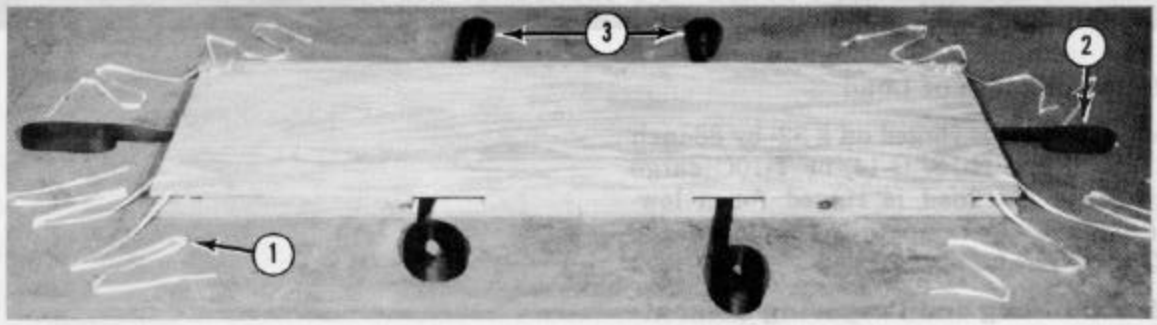
1. Drill two 1/2-inch holes in each corner of both pieces of plywood.
2. Nail the lumber to one piece of plywood with 8d nails.
3. Nail the second piece of plywood to the lumber with 8d nails.

NOTE: A CONSTRUCTED PLATFORM IS SHOWN IN FIGURE 2-2.

Figure 2-1. Construction details for platform

b. Prepare the platform as shown in Figure 2-2.

c. Build a honeycomb stack and position it on the platform as shown in Figure 2-3.

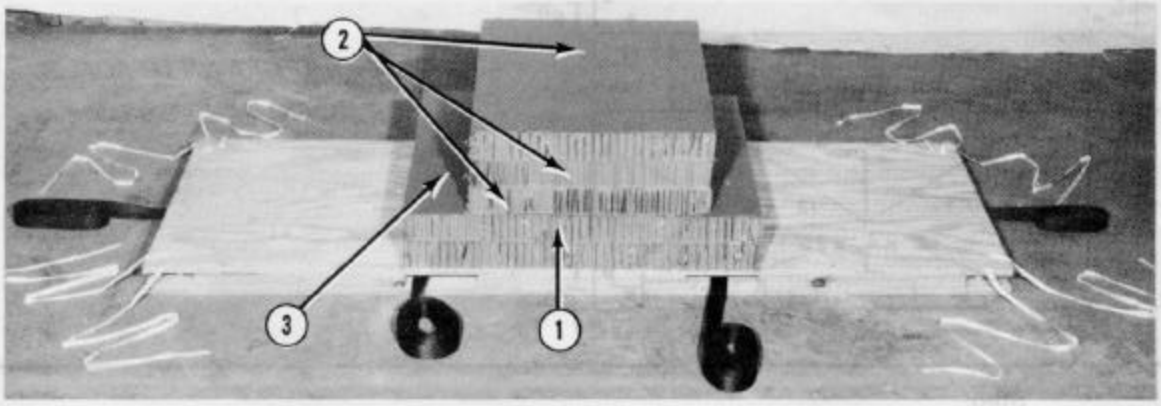


(1) Run an 18-foot length of 1/2-inch tubular nylon webbing through each pair of corner holes.

(2) Run one 24-foot length of type X or XIII nylon webbing lengthwise through the platform.

(3) Run two 18-foot lengths of type X or XIII nylon webbing crosswise through the platform.

Figure 2-2. Platform prepared



(1) Glue two 32- by 36-inch pieces of honeycomb together.

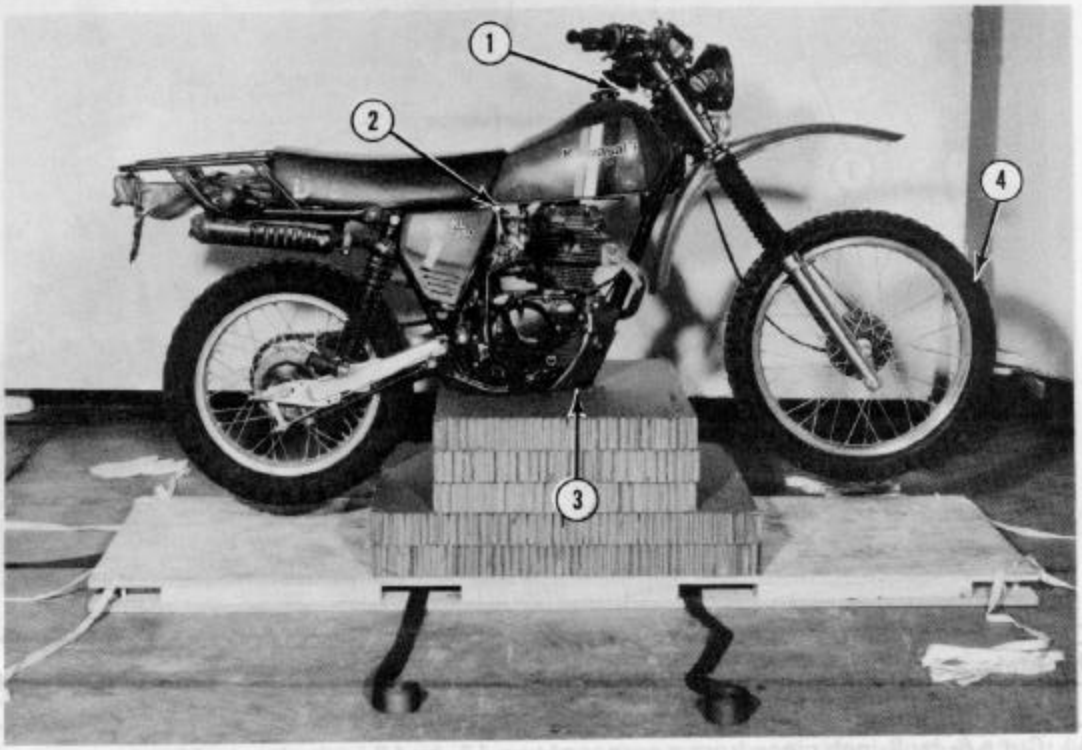
(2) Glue three 24- by 32-inch pieces of honeycomb together, and glue the pieces to the top 32-by 36-inch piece of honeycomb.

(3) Center the honeycomb, from front to rear, on the platform, and glue it in place.

Figure 2-3. Honeycomb stack placed on platform

2-3. Preparing, Positioning, Protecting, and Securing Motorcycle

a. Prepare and position the motorcycle on the platform as shown in Figure 2-4.



NOTE: BE SURE THAT THE FRAME PROTECTING THE ENGINE IS SITTING ON THE HONEYCOMB.

(1) Make sure that the fuel tank is at least one-half full but no more than three-fourths full.

NOTE: THE FUEL IS NO HIGHER THAN 3 INCHES BELOW THE FILLER CAP.

(2) Tie the kick-start lever up with type III nylon cord.

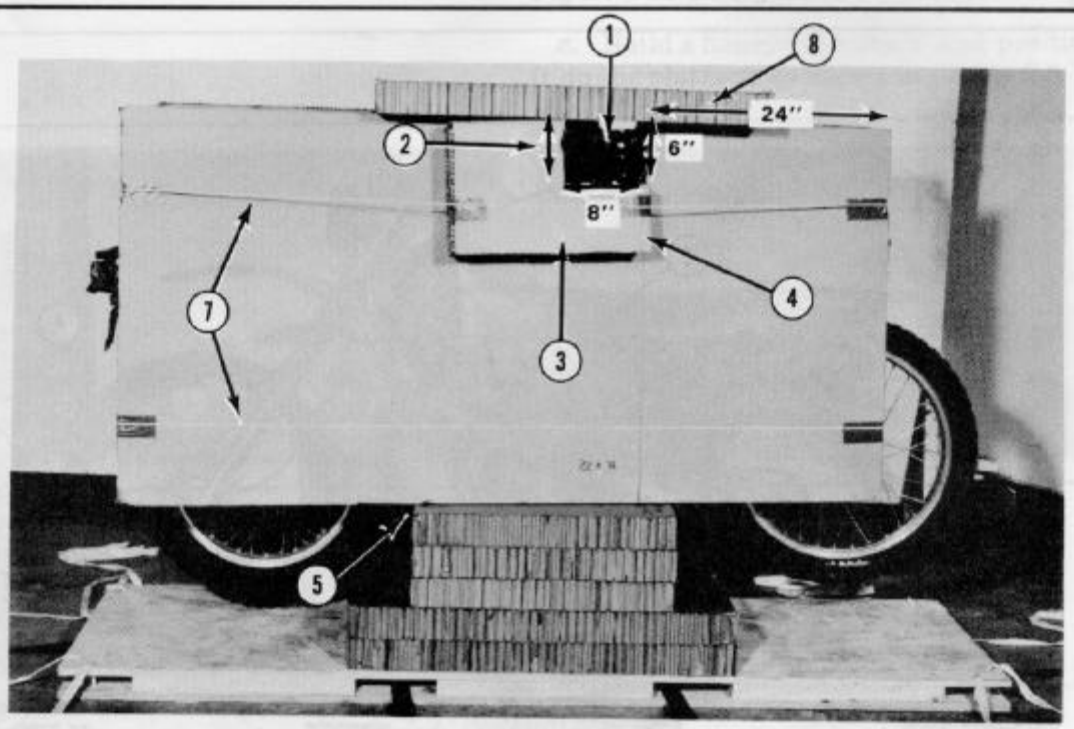
(3) Fold the footrest up.

(4) Set the motorcycle on the honeycomb stack with the front tire flush with the front edge of the platform.

Figure 2-4. Motorcycle prepared and placed on honeycomb

b. Tie honeycomb protectors to the motorcycle as shown in Figure 2-5.

c. Secure the motorcycle to the platform as shown in Figures 2-6 and 2-7.



(1) Make a 6- by 8-inch cutout in the 72-inch edge of a 36- by 72-inch piece of honeycomb, 24 inches from the front edge.

(2) Cut a 6- by 8-inch piece from a corner of two 12- by 18-inch pieces of honeycomb.

(3) Bend the 12- by 18-inch pieces of honeycomb to the rear of the cutouts.

(4) Align the cutouts, and glue the pieces together.

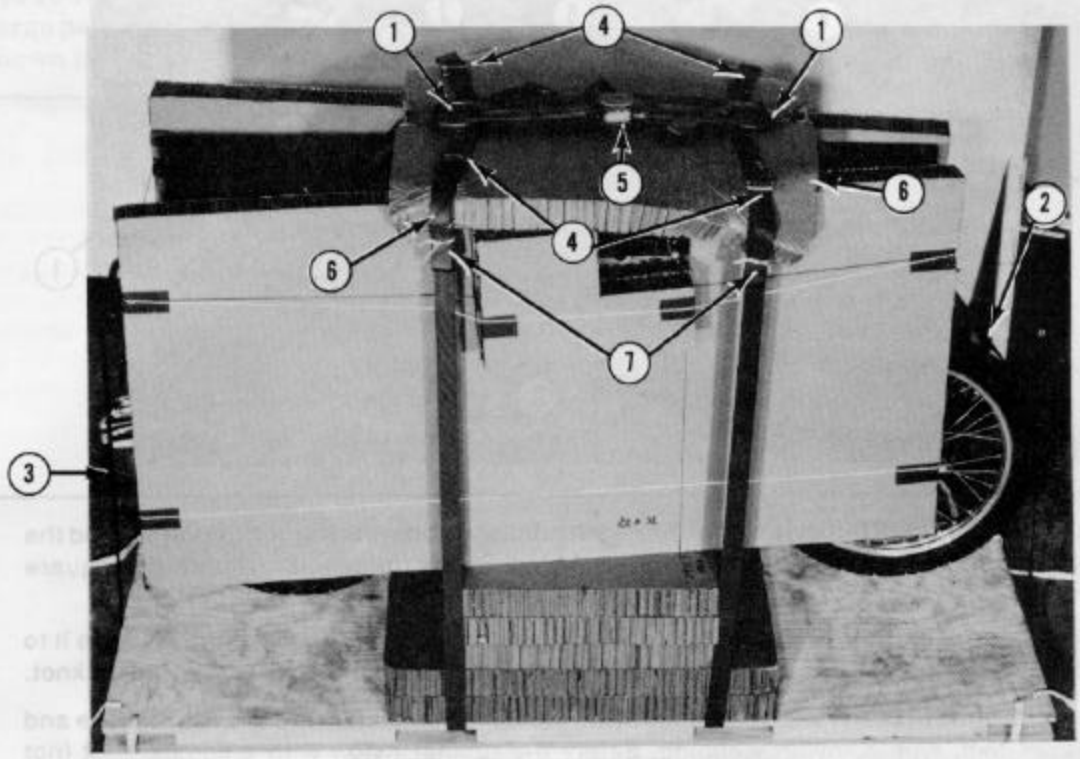
(5) Set the protector on the right side of the motorcycle. Rest the bottom edge of the protector on the honeycomb stack. Align the cutout with the handlebar.

(6) Repeat steps 1 through 5, and set a second protector on the left side of the motorcycle (not shown).

(7) Tie the protectors in place with lengths of type III nylon cord. Use tape on the protectors to keep the cord from cutting the protectors.

(8) Lay a 32- by 36-inch piece of honeycomb on the protectors so that the 36-inch side of the honeycomb is parallel with the long side of the platform.

Figure 2-5. Honeycomb protectors prepared and tied to motorcycle



(1) Lay two ring straps on top of the honeycomb.

(2) Run the front end of the 24-foot strap up over the front tire, and fit the strap to the front ring strap.

(3) Run the rear end of the 24-foot strap up over the rear tire and through the passenger's handhold. Fit the strap to the rear ring strap.

(4) Adapt procedures in FM 10-501/TO 13C7-1-11 to attach the quick-release assembly to the 18-foot straps.

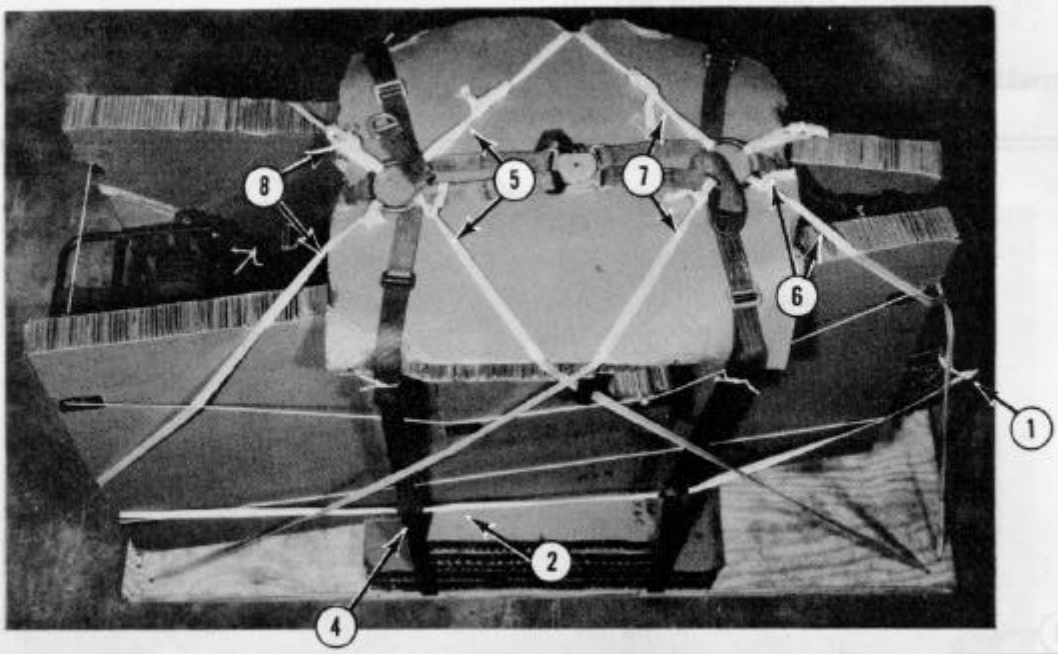
(5) Pull the 24-foot strap taut, keeping the release box in the center of the honeycomb.

NOTE: THE 24-FOOT STRAP MUST PASS OVER THE TIRES.

(6) Pull the 18-foot straps taut, allowing the honeycomb to bend under the straps.

(7) Fold the excess strap, and tie the folds in place with 80-pound cotton webbing. Tape may be used in place of the webbing.

Figure 2-6. Motorcycle secured to platform



(1) Run an additional 20-foot length of 1/2-inch tubular nylon webbing completely around the front tire and the 24-foot, type X, nylon webbing. Safety the tubular nylon with a square knot.

(2) Run the ends of the 1/2-inch tubular nylon webbing along each side of the load. Tie it to both 18-foot lengths of type X nylon webbing on each side of the load with a square knot.

(3) Run the ends of the 1/2-inch tubular nylon webbing completely around the rear tire and the 24-foot, type X, nylon webbing. Safety the tubular nylon with a square knot (not shown).

(4) Tape the tubular nylon ties to the 18-foot, type X, nylon webbing on each side of the load.

(5) Pass one end of the right front skid board tie around the front wheel, and tie it to the front steel ring. Tie the other end of the skid board tie to the rear steel ring.

(6) Pass one end of the left front skid board tie around the front wheel, and tie it to the front steel ring. Tie the other end of the skid board tie to the rear steel ring.

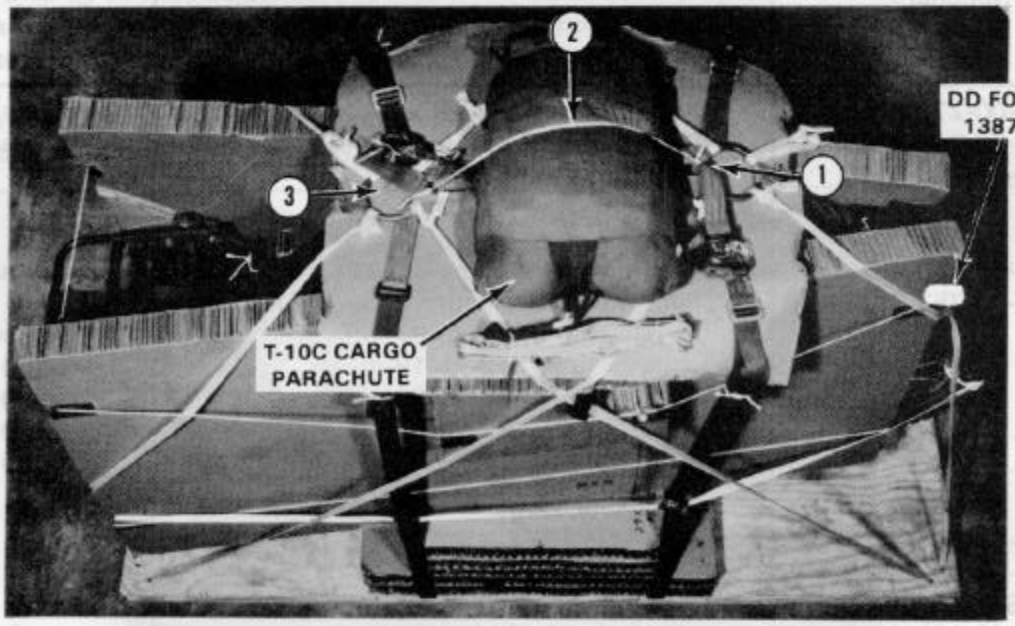
(7) Tie one end of the right rear skid board tie to the front steel ring. Pass the other end of the skid board tie around the rear of the load, and tie it to the rear steel ring.

(8) Tie one end of the left rear skid board tie to the front steel ring. Pass the other end of the skid board tie around the rear of the load, and tie it to the rear steel ring.

Figure 2-7. Nylon webbing tied to steel rings

2-4. Stowing Cargo Parachutes

Select either a G-13, G-14, or T-10C cargo parachute. Attach a G-13 or G-14 cargo parachute to the load according to FM 10-501/TO 13C7-1-11. Adapt the procedures in FM 10-501/TO 13C7-1-11 to attach the T-10C cargo parachute to the load. Stow the load as shown in Figure 2-8.



(1) Tie one end of a length of type III nylon cord to the front O-ring.

(2) Run the cord over the T-10C cargo parachute.

(3) Tie the free end of the type III nylon cord to the rear O-ring.

Figure 2-8. Parachute stowed on motorcycle rigged for a low-velocity airdrop

2-5. Marking Rigged Load

Attach a tag to the load with the following entries:

- Weight—485 pounds
- Height—71 inches
- Width—36 inches
- Length—88 inches

Complete DD Form 1387-2 (Special Handling Data/Certification), and securely attach it to the load as shown in Figure 2-8. Indicate on DD Form 1387-2 that the fuel tank has been prepared according to AFR 71-4/TM 38-250. If the load varies, the weight, height, and parachute requirements must be computed.

2-6. Equipment Required

The equipment needed to prepare and rig this load is listed in Table 2-1.

Table 2-1. Equipment required

National Stock Number	Item	Quantity
8040-00-273-8713	Adhesive, paste, 1-gal	As required
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
5510-00-220-6146	Lumber:	
	2- by 4- by 10-in	4
	2- by 4- by 20-in	6
5315-00-010-4659	Nail, steel wire, common, 8d	As required
1670-00-753-3928	Pad, energy-dissipating honeycomb,	
	3- by 36- by 96-in:	3 sheets
	12- by 18-in	(4)
	24- by 32-in	(3)
	32- by 36-in	(3)
	36- by 72-in	(2)
	Parachute, cargo:	
1670-00-984-3535	G-13 or	1
1670-00-999-2658	G-14 or	1
No NSN	T-10C	1
5530-00-128-4981	Plywood, 3/4- by 32- by 88-in	2
1670-00-131-9695	Quick-release, harness	1
	Strap:	
1670-00-360-0532	Quick-release	4
1670-00-360-0542	Ring	2
7510-00-266-5016	Tape, adhesive, 2-in	As required
8310-00-917-3944	Thread, cotton, ticket No 5	As required
	Webbing:	
8305-00-268-2411	Cotton, 80-lb	As required
8305-00-268-2453	Nylon, tubular, 1/2-in, 1,000-lb	As required
8305-00-261-8584	Nylon, type X or	As required
8305-00-260-4586	Nylon, type XIII	As required

CHAPTER 3

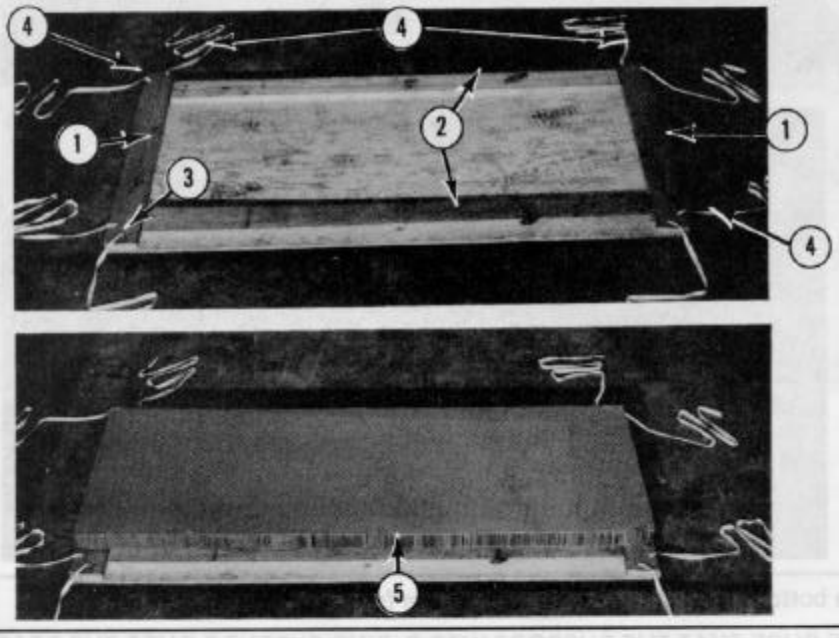
RIGGING TWO MOTORCYCLES FOR LOW-VELOCITY AIRDROP

3-1. Description of Load

Two motorcycles are rigged in two A-22 cargo bags on a 48- by 96-inch CEP with one G-12D cargo parachute. The load is rigged for a low-velocity, over-the-ramp airdrop from a C-130 aircraft. Each motorcycle is 35 inches wide, 49 inches high, and 88 inches long. Each weighs 275 pounds.

3-2. Building and Preparing Combat-Expendable Platform

Build and prepare the 48- by 96-inch CEP as shown in Figure 3-1.



(1) Nail one 2- by 6- by 48-inch piece of lumber flush with each 48-inch end of a 3/4- by 48- by 96-inch piece of plywood with 8d nails.

(2) Nail one 2- by 6- by 85-inch piece of lumber to each 96-inch side of the plywood, 3 inches in from each edge, with 8d nails.

(3) Drill two 1/2-inch holes in each corner 2 inches from the side and 3 inches from each other.

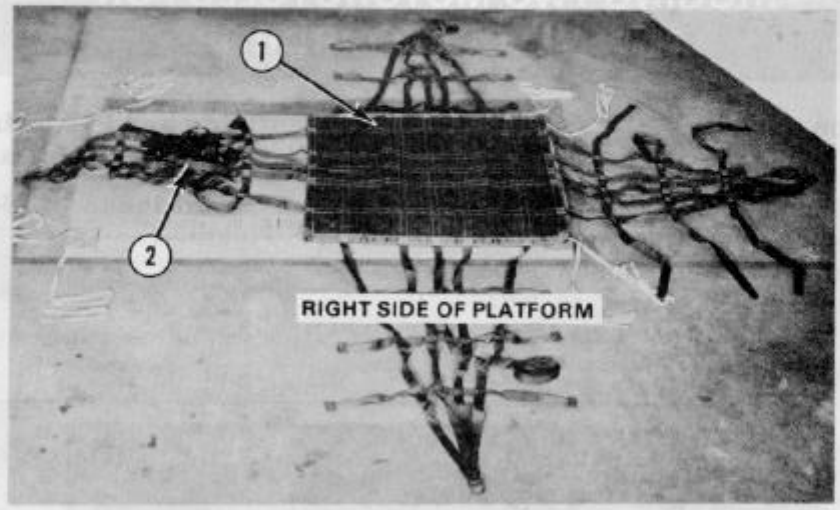
(4) Run a 12-foot length of 1/2-inch tubular nylon webbing through each pair of corner holes.

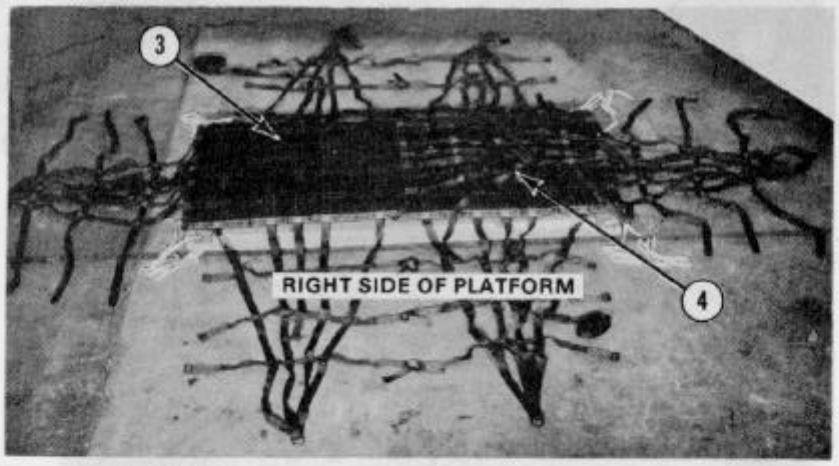
(5) Lay a 36- by 96-inch piece of honeycomb on the platform.

Figure 3-1. Platform prepared

3-3. Positioning and Joining A-22 Sling Assemblies

Lay two A-22 cargo bag sling assemblies on the platform as shown in Figure 3-2, and join them together as shown in Figure 3-3.





(1) Lay the bottom A-22 sling assembly on the front end of the platform.

NOTE: BE SURE THAT THE SUPPORT WEB D-RING EXTENDS OVER THE REAR EDGE OF THE PLATFORM.

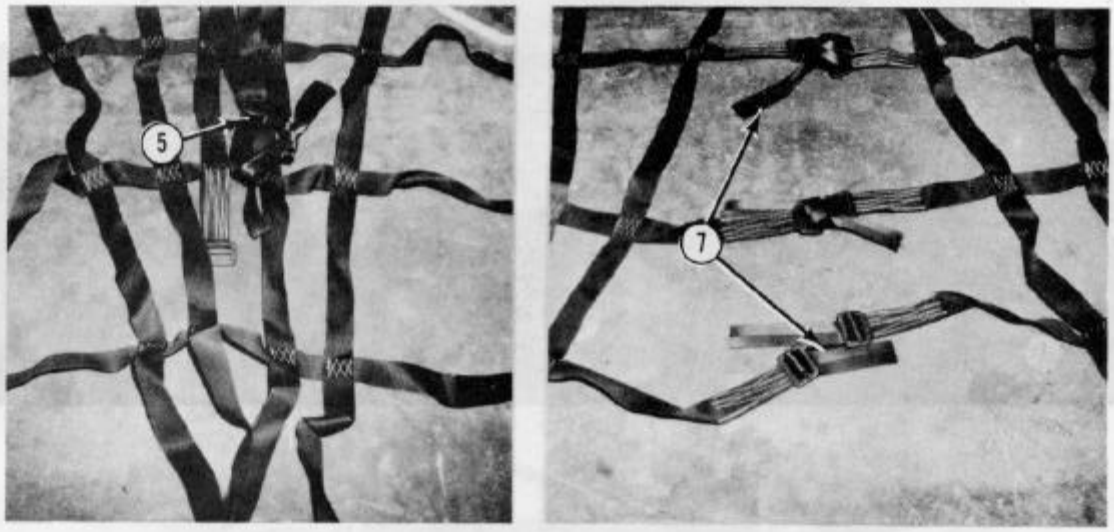
(2) Fold the rear lateral and long straps inboard.

(3) Lay the top A-22 sling assembly on the rear end of the platform. Make the two assemblies parallel.

NOTE: BE SURE THAT THE SUPPORT WEB D-RING OF THE TOP ASSEMBLY EXTENDS OVER THE FRONT EDGE OF THE PLATFORM.

(4) Fold the front lateral and long tiedown straps of the top assembly inboard.

Figure 3-2. A-22 sling assemblies placed on the platform



(5) Run a length of type VIII nylon webbing through the bottom support web D-ring and around the webbing of the top assembly. Tie the ends of the webbing together.

(6) Repeat step 5 and tie the top support web D-ring to the bottom assembly (not shown).

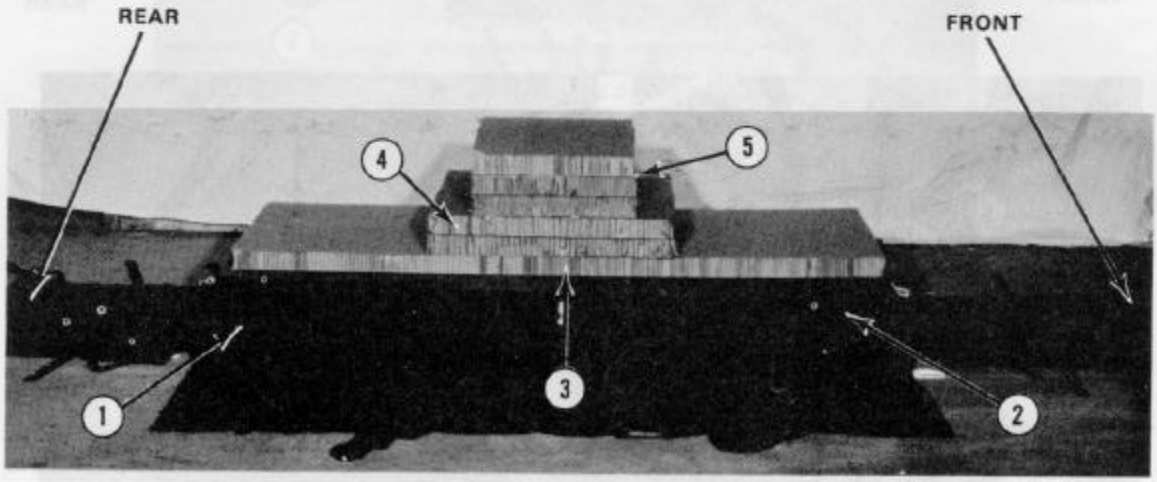
(7) Run a length of type VIII nylon webbing through each pair of inside friction adapters.

NOTE: DO NOT PULL THE WEBBINGS TAUT AT THIS TIME. THEY WILL BE TIGHTENED AND TIED WHEN THE SLING ASSEMBLIES ARE CLOSED.

Figure 3-3. A-22 sling assemblies joined

3-4. Positioning A-22 Cargo Covers and Honeycomb

Lay two A-22 cargo bag covers on the sling assemblies. Set the honeycomb on the covers as shown in Figure 3-4.



1. Lay an A-22 cargo bag cover on the rear sling assembly with the cover squarely on top of the scuff pad. Fold the front end flap in even with the front edge of the platform.
2. Repeat step 1, and lay a cover on the front sling assembly. Fold the rear end flap in.
3. Center a 36- by 96-inch piece of honeycomb on the cargo bag covers.
4. Glue two 36- by 36-inch pieces of honeycomb together, and glue them to the center of the 36- by 96-inch piece of honeycomb.
5. Glue three 24- by 36-inch pieces of honeycomb together, and glue them to the center of the 36- by 36-inch honeycomb.

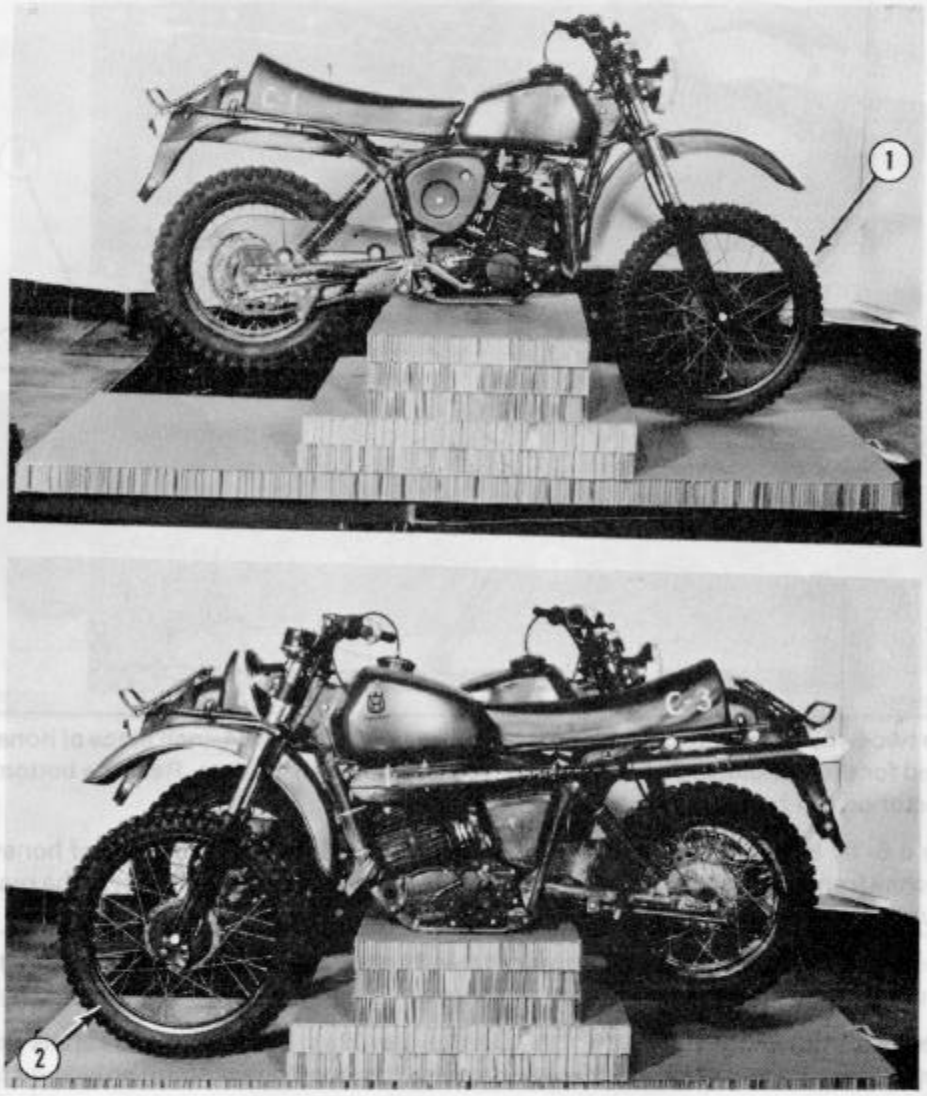
Figure 3-4. Cargo covers and honeycomb positioned on platform

3-5. Preparing, Positioning, and Protecting Motorcycles

a. Prepare the two motorcycles as outlined in Chapter 2. Set them on the honeycomb as shown in Figure 3-5.

b. Tie honeycomb protectors to the motorcycles as shown in Figure 3-6.

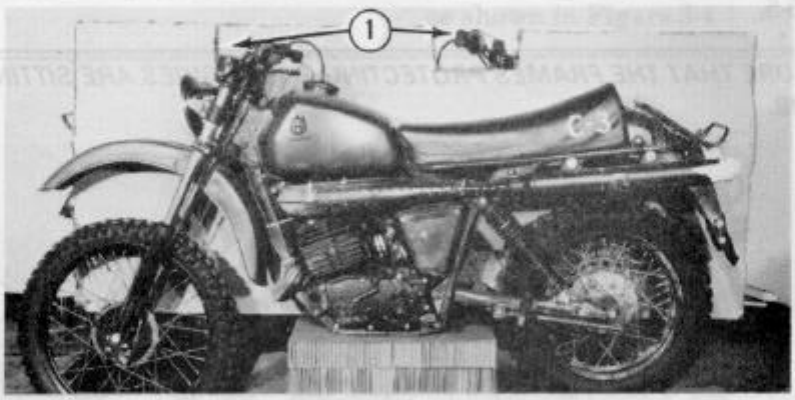
NOTE: BE SURE THAT THE FRAMES PROTECTING THE ENGINES ARE SITTING ON THE HONEYCOMB.

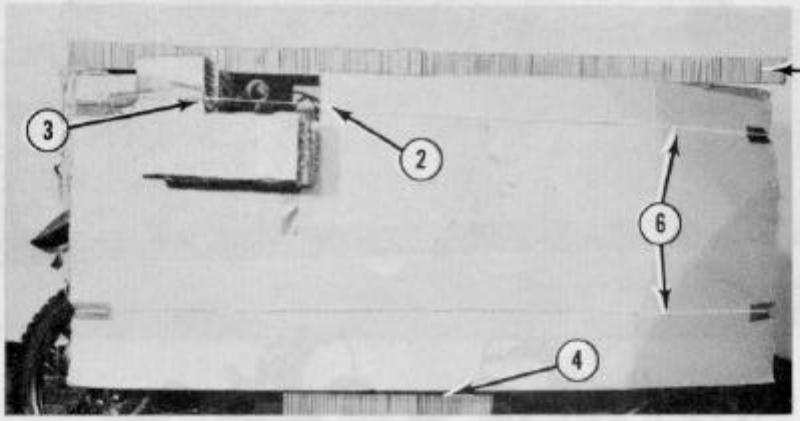


(1) Set one motorcycle on the honeycomb with the front wheel toward the front of the platform.

(2) Set the second motorcycle 3 inches from the first one with the front wheel toward the rear of the platform.

Figure 3-5. Motorcycles placed on honeycomb





(1) Make two 6- by 8-inch cutouts in one 84-inch edge of a 36- by 84-inch piece of honeycomb spaced for the handlebars of both motorcycles to fit in the cutouts. Rest the bottom of the protector on the honeycomb stack.

(2) Make a 6- by 8-inch cutout in the 84-inch edge of a 36- by 84-inch piece of honeycomb, 30 inches from the rear edge of the honeycomb. Bend the honeycomb just to the rear of the cutout.

(3) Cut a 6- by 8-inch piece from the corner of two 12- by 18-inch pieces of honeycomb. Align the cutouts, and glue the two pieces of honeycomb together.

(4) Set the protector on the right side of the motorcycles. Rest the bottom edge of the protector on the honeycomb stack. Align the cutouts with the handlebar.

(5) Repeat steps 2, 3, and 4, and set a second protector on the left side of the motorcycle (not shown). Make the cutout 30 inches from the front edge of the honeycomb protector.

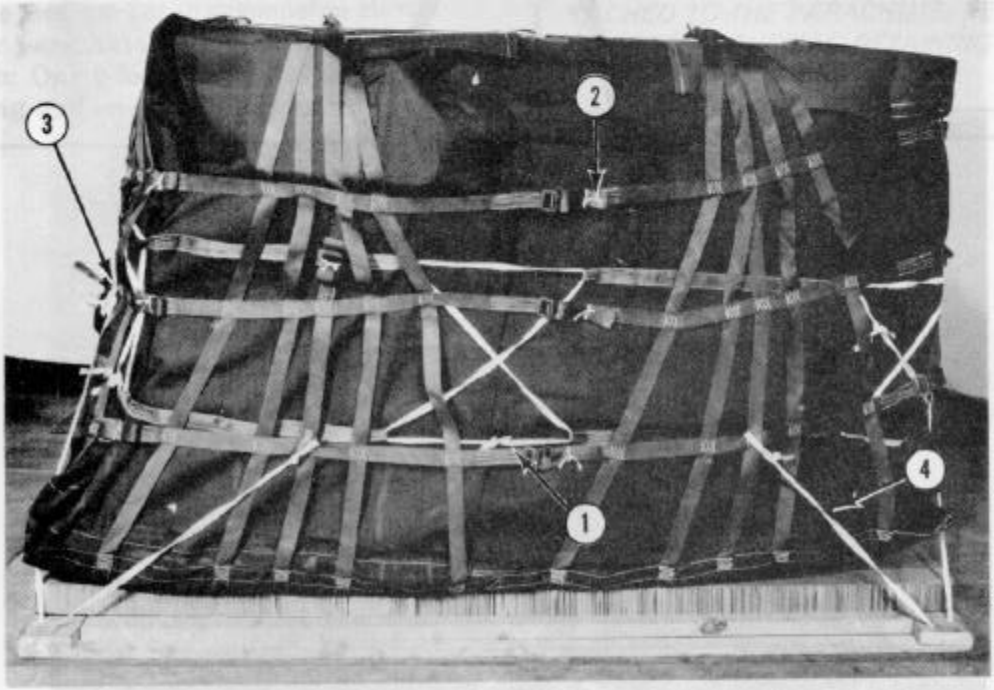
(6) Tie the protectors in place with lengths of type III nylon cord. Use tape on the protectors to keep the cord from cutting the protectors.

(7) Lay a 24- by 84-inch honeycomb protector on top of the other protectors.

Figure 3-6. Honeycomb protectors prepared and tied to motorcycles

3-6. Closing Cargo Bags

Close the A-22 cargo bags as outlined in FM 10-501/TO 13C7-1-11 and with the exceptions shown in Figure 3-7.



(1) Use either the rope provided or lengths of 1/2-inch tubular nylon webbing, and tie the two cargo bag covers together.

(2) Close the sling assemblies as outlined in FM 10-501/TO 13C7-1-11. Pull taut the type VIII nylon webbing running through the friction adapters. Tie an overhand knot in each running end of the webbing.

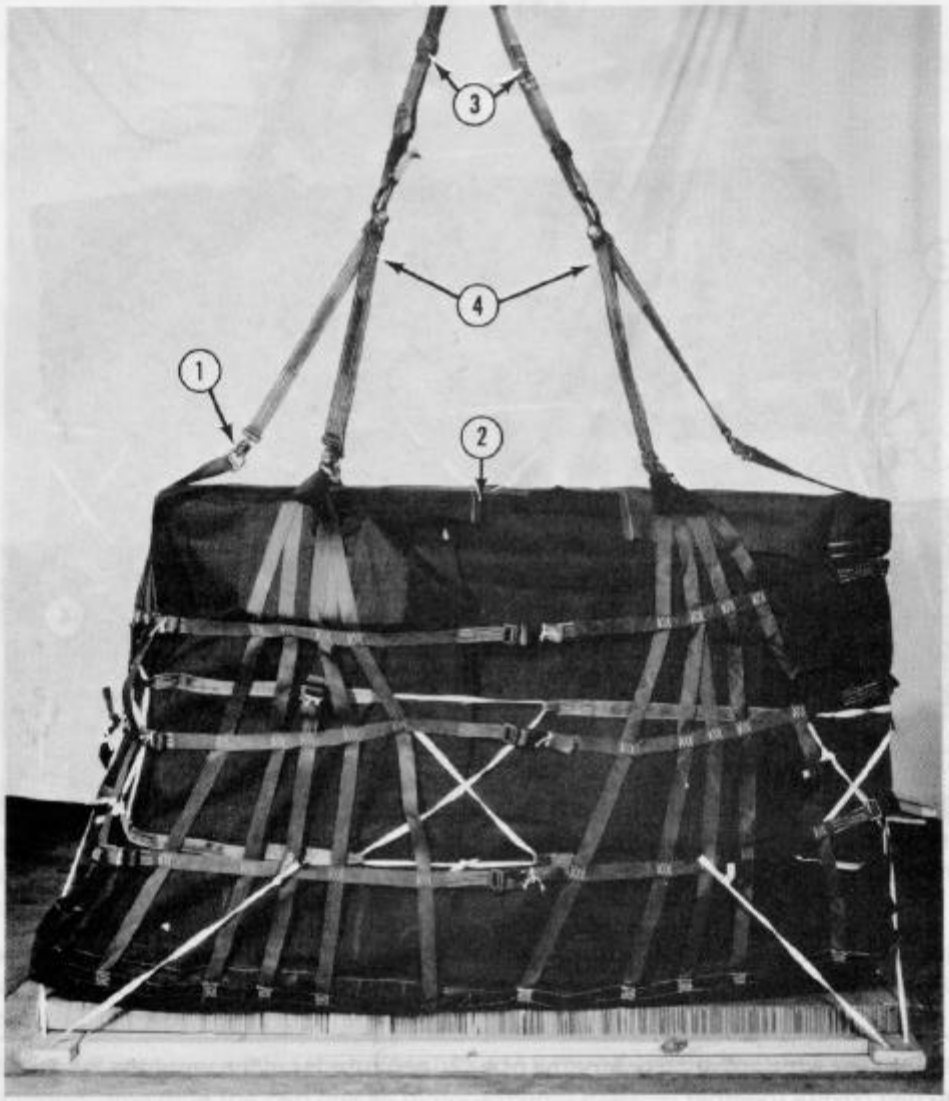
(3) Loosen the ties on the support web D-rings, and pull the webbing ties taut. Tie the ends of the webbing together with a square knot, and tie an overhand knot in each running end.

(4) Tie the corners of the platform to the sling assemblies with the lengths of webbing running through the corner holes (Figure 3-1, step 4).

Figure 3-7. Cargo bags closed

3-7. Attaching Suspension Slings

Fit a suspension web to each support web D-ring. Fit two 3-foot slings to the suspension webs as shown in Figure 3-8.



(1) Snap a suspension web to each support web D-ring. Wrap the connector snaps with tape.

(2) Run a length of type III nylon cord through the front support web D-rings. Cross the cord, and run it rearward through the rear support web D-rings. Tie the ends of the cord together with a surgeon's knot and a locking knot. Tie an overhand knot in each running end.

(3) Fit two 3-foot (3-loop), type X, nylon webbing slings to the bells of two cargo suspension clevis assemblies.

(4) Bolt the front suspension web D-rings to one clevis and the rear D-ring to the other clevis.

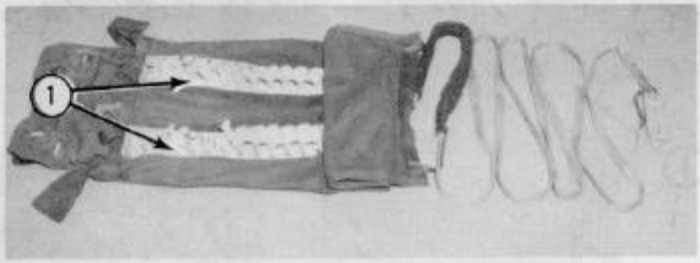
Figure 3-8. Suspension slings installed

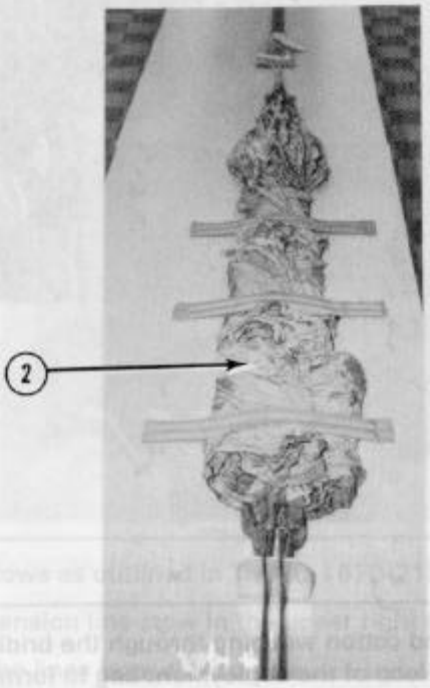
3-8. Packing a 15-Foot Cargo Extraction Parachute

Pack a 15-foot cargo extraction parachute as shown in Figures 3-9 through 3-14 using the following items:

- One T-10 deployment bag with static line.
- Retainer bands.
- Eighty-pound cotton webbing.
- Ticket number 5 cotton thread.
- One medium cargo suspension clevis.
- For parachute with a 36-inch adapter web: One 9-foot (3-loop), type X, nylon sling and one type IV connector link.
- For parachute without a 36-inch adapter web: One 12-foot (3-loop), type X, nylon sling and one 60-inch nylon webbing strap (shear strap).

NOTE: IF THE STANDARD 15-FOOT PARACHUTE DEPLOYMENT BAG IS ATTACHED TO THE PARACHUTE, REMOVE THE BAG AT THE BAG RETAINING LINE.

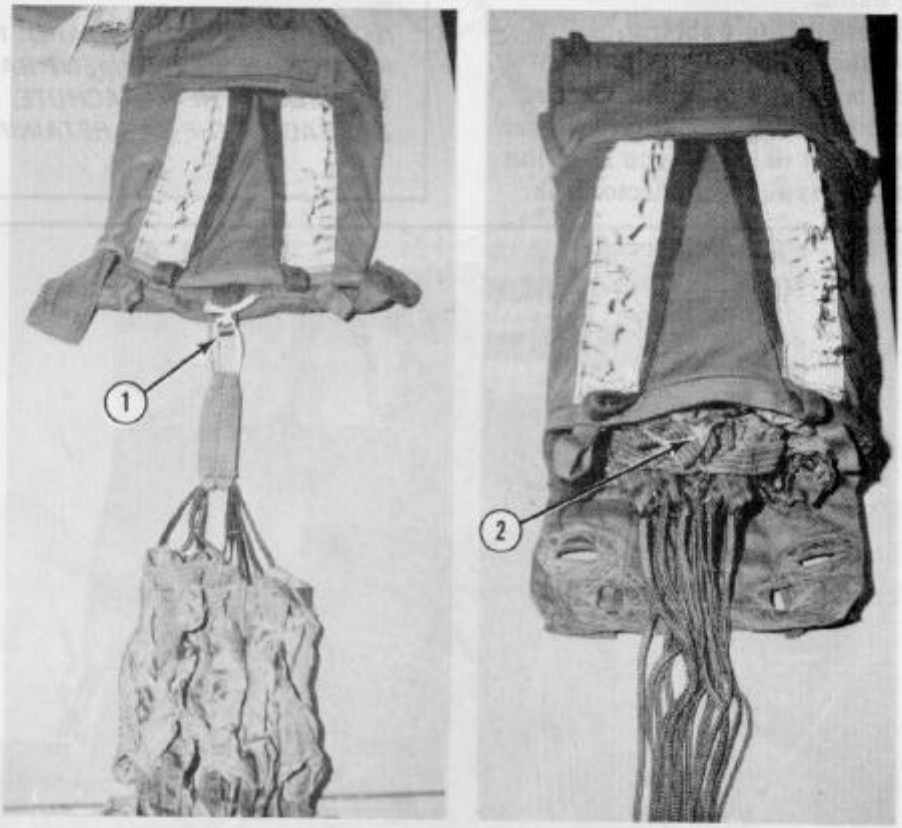




(1) Attach retainer bands to the first eight stow loops on each side of the T-10 deployment bag.

(2) Flat fold and long fold the canopy as outlined in TM 10-1670-215-23/TO 13C5-1-102.

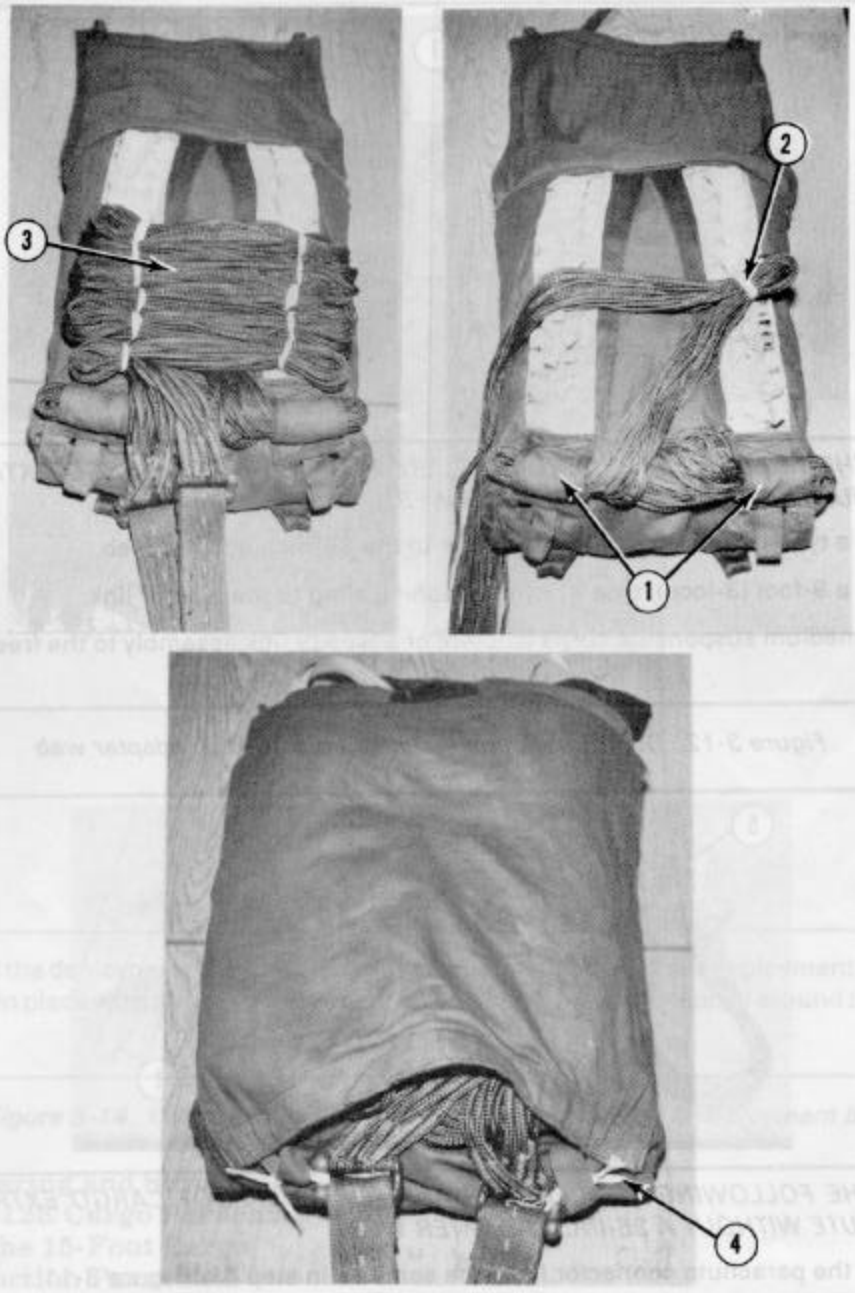
Figure 3-9. Retainer bands attached and canopy folded



(1) Pass two lengths of 80-pound cotton webbing through the bridle loop of the canopy and through the bridle attaching loop of the deployment bag to form a 3-inch loop. Cross the ends of the webbing over the attaching loop, and tie them with a surgeon's knot and locking knot.

(2) S-fold the canopy into the deployment bag starting in the upper right corner of the bag.

Figure 3-10. Deployment bag attached and canopy stowed



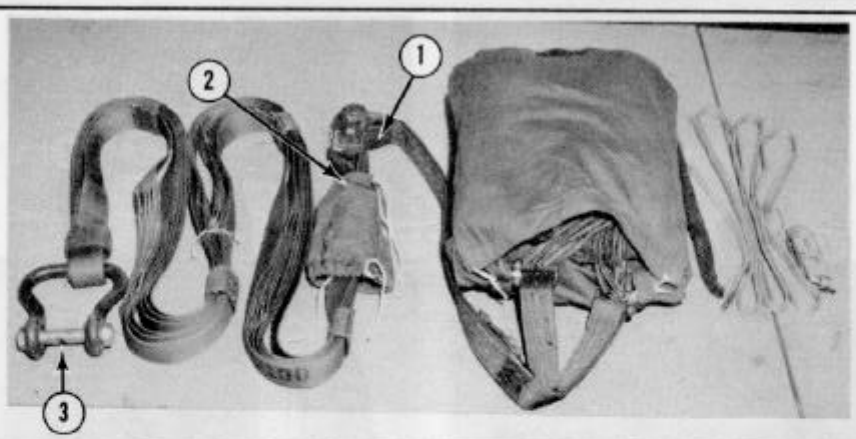
(1) Make the locking stows as outlined in TM 10-1670-215-23.

(2) Make the first suspension line stow in the upper right retainer band.

(3) Continue stowing the lines from side to side.

(4) Pass a length of 80-pound cotton webbing through the right side connector link, the connector link loops, and the suspension line protector flap loop. Tie the webbing with a surgeon's knot and locking knot. Repeat on the left side.

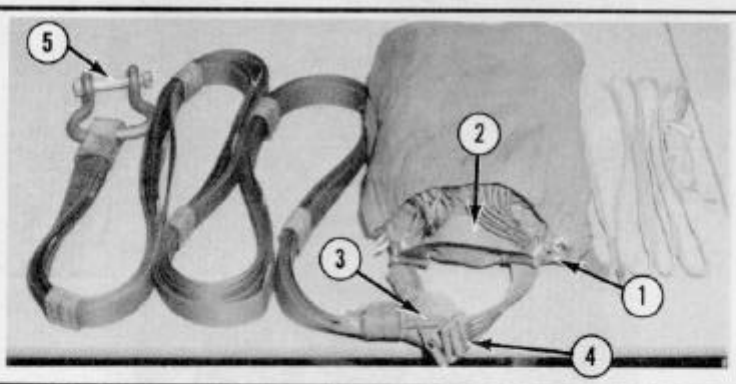
Figure 3-11. Locking and suspension line stows made and connector links tied



NOTE: THE FOLLOWING PROCEDURES ARE FOR A 15-FOOT CARGO EXTRACTION PARACHUTE WITH A 36-INCH ADAPTER WEB.

1. Attach a type IV link assembly with cover to the 36-inch adapter web.
2. Attach a 9-foot (3-loop), type X, nylon webbing sling to the type IV link.
3. Bolt a medium suspension clevis (shown) or a type IV link assembly to the free end of the sling.

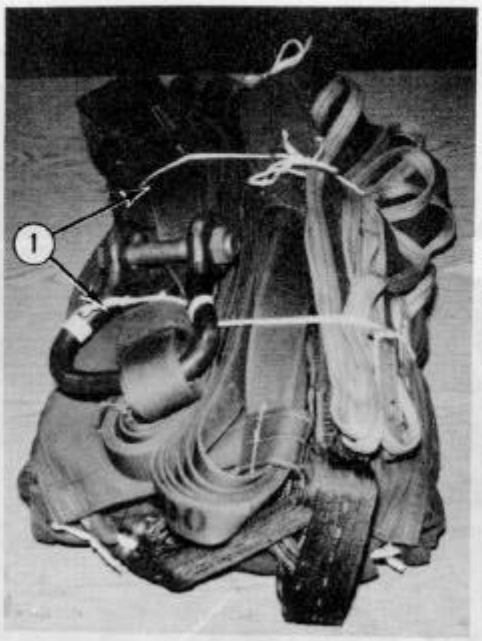
Figure 3-12. Deployment line installed on a 36-inch edapter web



NOTE: THE FOLLOWING PROCEDURES ARE FOR A 15-FOOT CARGO EXTRACTION PARACHUTE WITHOUT A 36-INCH ADAPTER WEB.

1. Secure the parachute connector links the same as in step 4 of Figure 3-11.
2. Run an end of a 60-inch shear strap through both of the parachute connector links.
3. Run an end of the 60-inch shear strap through an end of a 12-foot (3-loop), type X, nylon sling.
4. Fasten the friction adapter, and adjust the shear strap to form a 12-inch loop. Tape the excess strap.
5. Bolt a medium suspension clevis (shown) or a type IV link assembly to the free end of the sling.

Figure 3-13. Deployment line installed on a 60-inch shear strap



(1) S-fold the deployment line and static line. Place them on top of the deployment bag. Secure them in place with two lengths of 80-pound cotton webbing wrapped around the lines and bag.

Figure 3-14. Cargo extraction parachute packed in a T-10 deployment bag

3-9. Preparing and Stowing a G-12D or G-12E Cargo Parachute and the 15-Foot Cargo Extraction Parachute

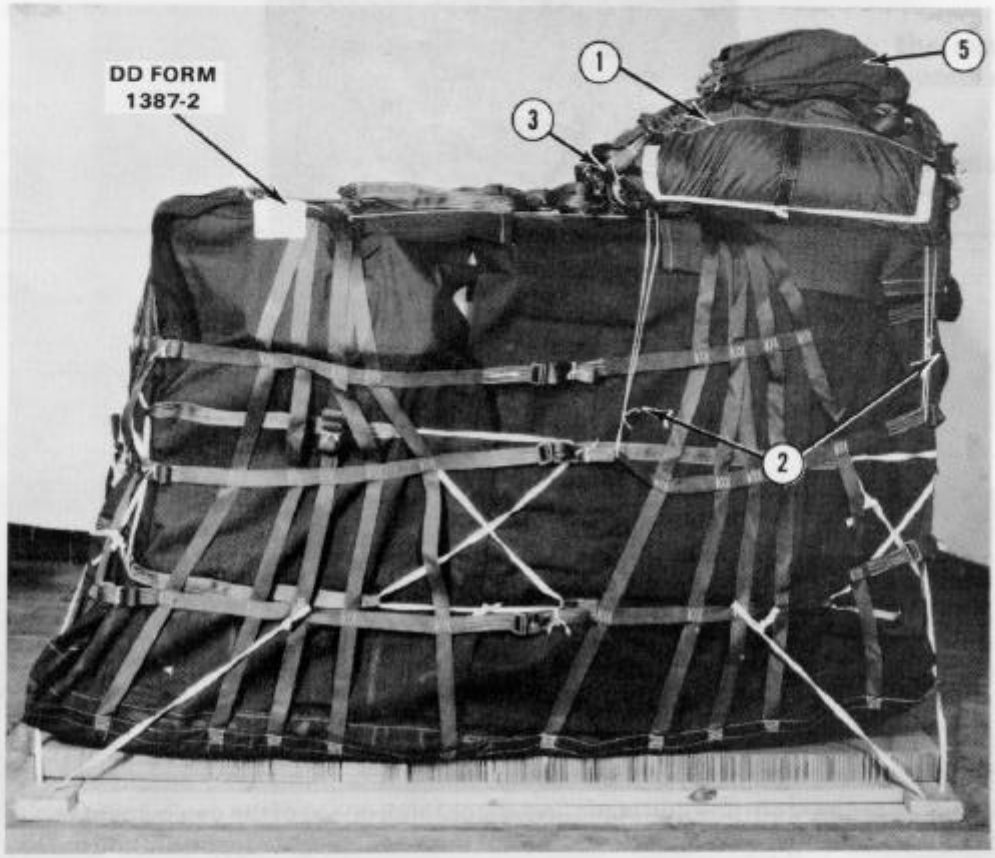
Prepare a G-12D or G-12E cargo parachute. Stow it and the 15-foot cargo extraction parachute on the load as shown in Figure 3-15.

3-10. Marking Rigged Load

Attach a tag to the load with the following entries:

- Weight—896 pounds
- Height—75 inches
- Width—48 inches
- Length—96 inches

Complete DD Form 1387-2, and securely attach it to the load as shown in Figure 3-15. Indicate on DD Form 1387-2 that the fuel tank has been prepared according to AFR 71-4/TM 38-250. If the load varies, the weight, height, and parachute requirements must be computed.



(1) Set the parachute on the front of the load with the riser compartment up and the deployment bag bridle to the front.

(2) Tie the parachute in place with four lengths of 80-pound cotton webbing.

(3) Bolt the 3-foot suspension slings to the parachute's riser clevis. Fold the slings, and tape the folds in place.

(4) Cut the secondary bag closing tie (not shown).

(5) Set a 15-foot cargo extraction parachute, packed in a T-10C deployment bag, on the G-12 cargo parachute. Tie it in place with ticket number 5 or 8/7 cotton thread.

(6) Attach the 9-foot sling clevis to the G-12 bridle assembly.

Figure 3-15. Parachutes stowed on motorcycles rigged for a low-velocity airdrop

3-11. Equipment Required

The equipment needed to prepare and rig this load is listed in Table 3-1.

Table 3-1. Equipment required

National Stock Number	Item	Quantity
1670-00-040-8215	*Adapter, web, 36-in (or use 60-in nylon webbing, shear strap, NSN 1670-00-738-5878)	1
8040-00-273-8713	Adhesive, paste, 1-gal	As required
1670-00-587-3421	A-22 cargo bags	2
1670-00-590-9909	*Bag, deployment, personnel parachute, T-10B	1
1670-00-568-0323	*Band, rubber, retainer	As required
4030-00-678-8562	Clevis assembly, suspension, cargo	2
6030-00-678-8560	Clevis, riser, G-13	1
4020-00-240-2146	Cord, nylon, type III, 550-lb	As required
1670-00-217-2421	Link assembly, L-bar type	2
1670-00-783-5988	*Link assembly, type IV	1
	Lumber:	
5510-00-220-6148	2- by 6- by 48-in	2
	2- by 6- by 85-in	2
5315-00-010-4659	Nail, steel wire, common, 8d	As required
1670-00-753-3928	Pad, energy-dissipating honeycomb, 3- by 36- by 96-in:	7 sheets
	12- by 18-in	(4)
	24- by 36-in	(3)
	24- by 84-in	(1)
	36- by 36-in	(2)
	36- by 84-in	(3)
	36- by 96-in	(2)
	Parachute:	
1670-00-893-2371	cargo, G-12D	1
	or	
1670-01-065-3755	cargo, G-12E	1
1670-00-052-1548	*cargo, extraction, 15-ft	1
5530-00-128-4981	Plywood, 3/4- by 48- by 96-in	2
	Sling, cargo, airdrop, type X, nylon webbing:	
1670-00-753-3788	3-ft (3-loop)	2
1670-00-753-3788	*3-ft (3-loop)	2
1670-00-753-3631	*9-ft (3-loop) (deployment line)	
	or	
	12-ft (3-loop), NSN 1670-00- 823-5041, (for use with a 60-in shear strap)	1

Table 3-1. Equipment required (continued)

National Stock Number	Item	Quantity
1670-00-998-0117	Static line, cargo parachute, breakaway-type	1
1670-00-925-7843	*Static line, personnel parachute, T-10B	1
7510-00-266-5016	Tape, adhesive, 2-in	As required
8310-00-917-3944	Thread, cotton, ticket No 5	As required
	Webbing:	
8305-00-268-2411	Cotton, 80-lb	As required
8305-00-268-2453	Nylon, tubular, 1/2-in, 1,000-lb	As required
8305-00-263-3591	Nylon, type VIII	As required

*These items are needed to pack the 15-foot cargo extraction parachute.

CHAPTER 4

RIGGING MOTORCYCLE AND TRUCK FOR LOW-VELOCITY AIRDROP

4-1. Description of Load

A 250-cubic centimeter Kawasaki motorcycle and an M561, 1 1/4-ton cargo truck are rigged on a 20-foot, type II, modular airdrop platform with either three G-11A or two G-11B cargo parachutes. This load is rigged for a low-velocity airdrop from a C-130 or C-141 aircraft.

a. The unrigged motorcycle is 88 inches long, 49 inches high, and 35 inches wide. It weighs 275 pounds.

b. The unrigged truck is 227 inches long and 84 inches wide. The height of the M561 is 91 inches (reducible to 70 inches). It weighs 7,300 pounds.

NOTE: THE TRUCK RIGGED WITH THIS LOAD MUST NOT BE EQUIPPED WITH A WINCH.

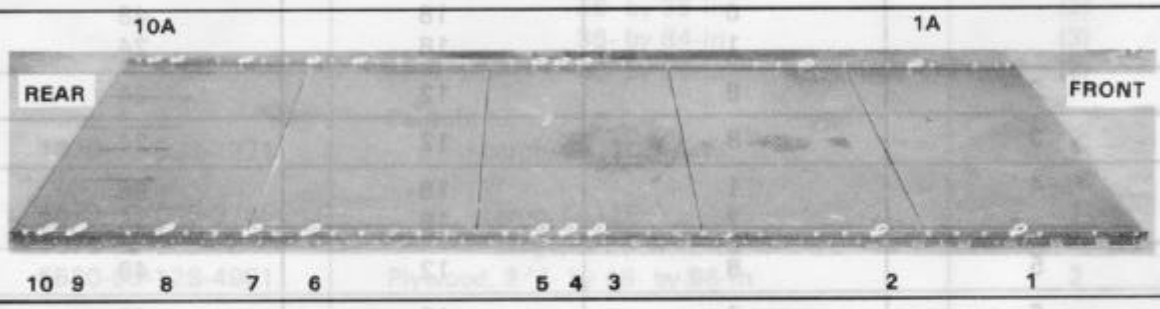
c. An accompanying load of up to 2,500 pounds may be rigged as a part of this load.

NOTE: THE LOAD SHOWN IN THIS MANUAL HAS NO ACCOMPANYING LOAD.

4-2. Preparing Platform

a. Inspecting Platform. Inspect, or assemble and inspect, a 20-foot, type II, modular airdrop platform according to TM 10-1670-208-20&P/TO 13C3-4-12.

b. Attaching and Numbering Clevises. Bolt 10 load tiedown clevises to each platform side rail according to FM 10-500/TO 13C7-1-5 and as shown in Figure 4-1.



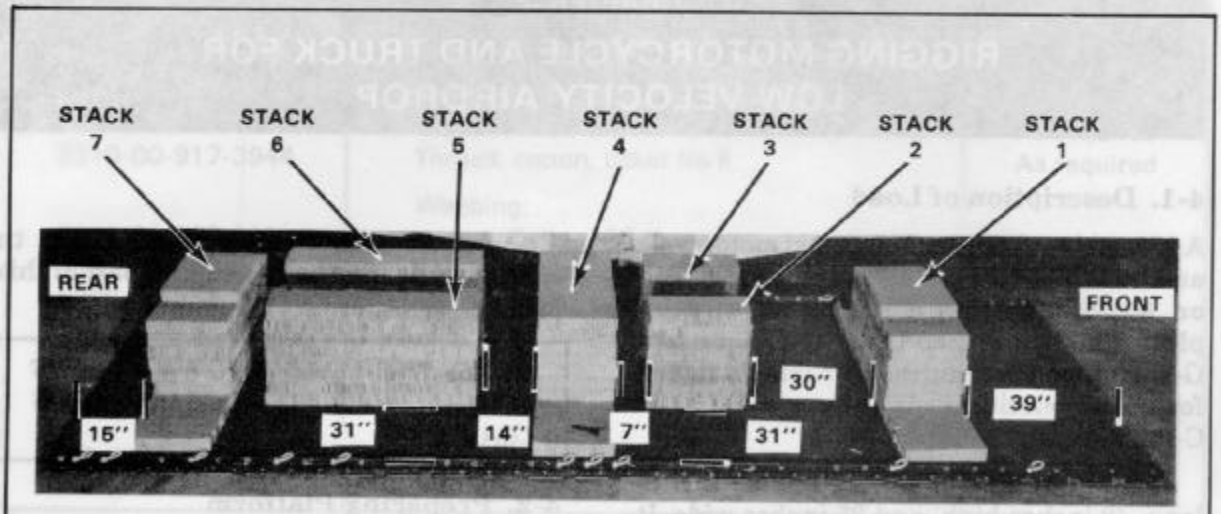
Step:

1. Bolt 10 load tiedown clevises to each platform side rail according to FM 10-500/TO 13C7-1-5. Use clevis holes 6, 11, 21, 22, 23, 31, 33, 36, 39, and 40.
2. Number the clevises bolted to the right rail 1 through 10 and those bolted to the left rail 1A through 10A.

Figure 4-1. Platform prepared

4-3. Building and Placing Honeycomb Stacks

Build seven honeycomb stacks. Place them on the platform as shown in Figures 4-2 and 4-3.



Stack Number	Pieces	Width (Inches)	Length (Inches)
1	1	18	96
	6	18	48
	1	18	24
2	8	12	24
3	8	12	24
4	1	18	96
	7	18	48
5	8	12	48
6	8	12	48
7	1	18	96
	6	18	48
	1	18	24

Figure 4-2. Honeycomb stacks placed on platform

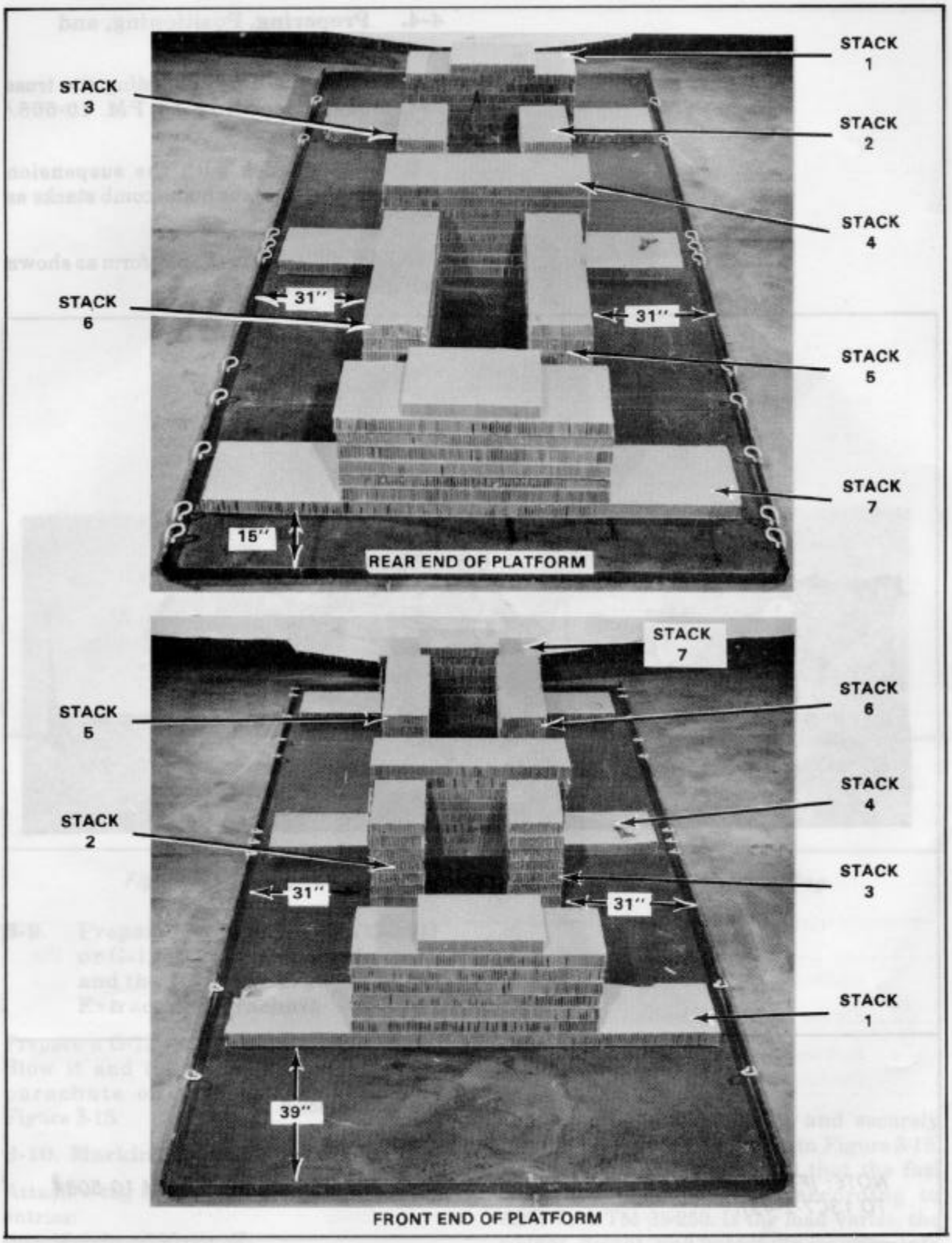


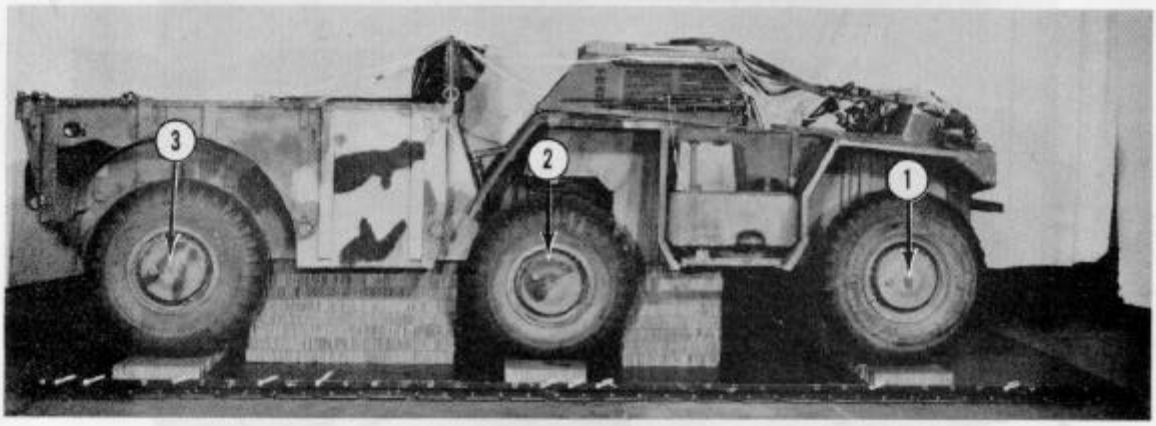
Figure 4-3. Front and rear views of honeycomb stacks

4-4. Preparing, Positioning, and Lashing Truck

a. Prepare the truck, including the truss assembly, according to FM 10-508/TO 13C7-2-491.

b. Lift the truck with the suspension slings, and set it on the honeycomb stacks as shown in Figure 4-4.

c. Lash the truck to the platform as shown in Figures 4-5 and 4-6.



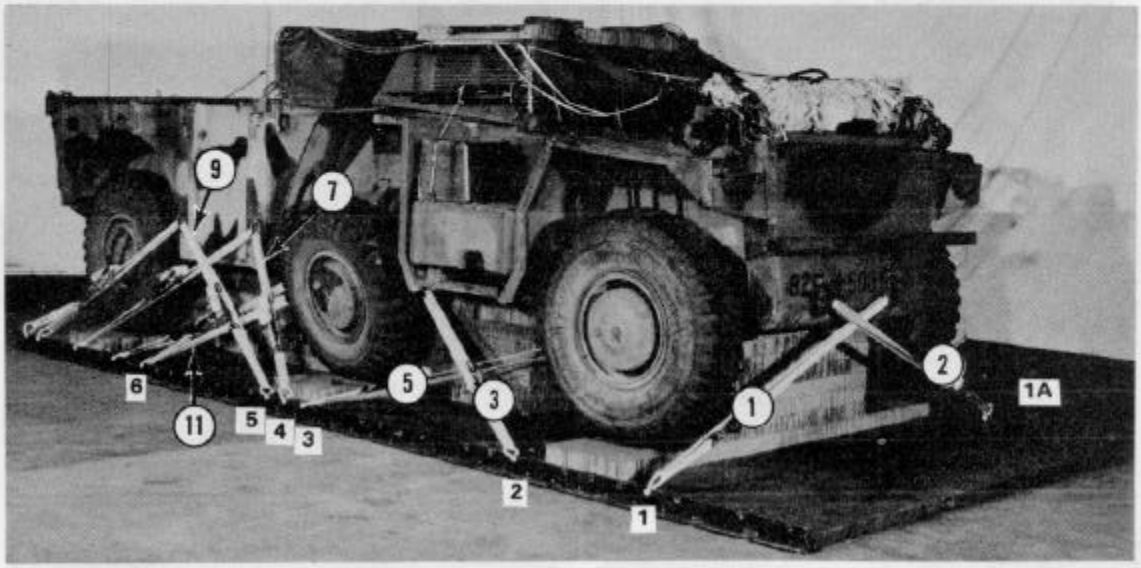
(1) Center the front wheels on stack 1.

(2) Center the middle wheels on stack 4.

(3) Center the rear wheels on stack 7.

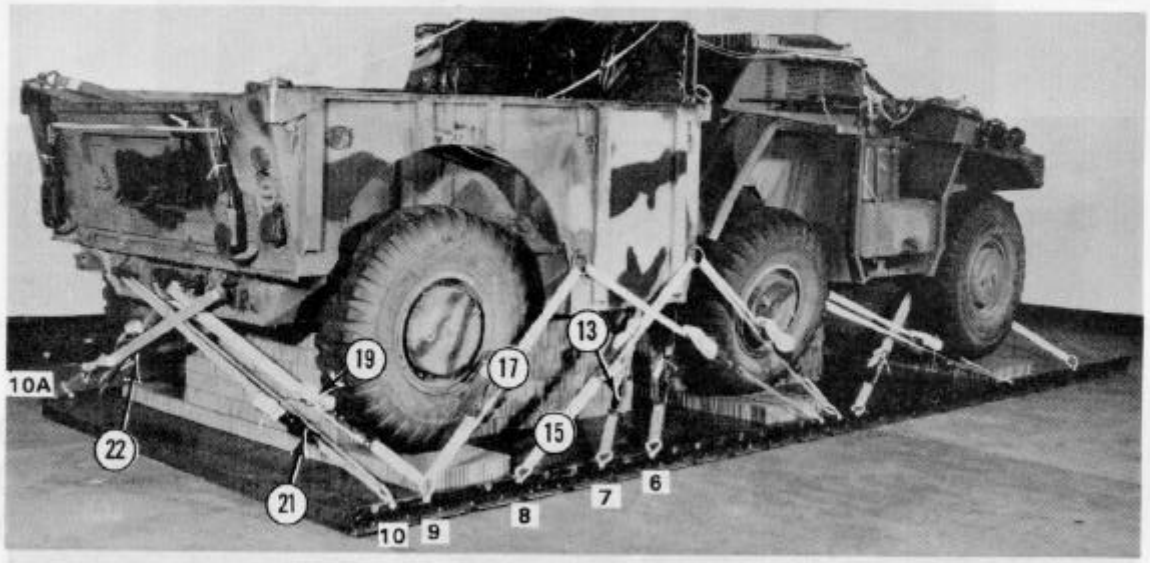
NOTE: IF THE DRIVE-OFF AID IS REQUIRED, INSTALL IT ACCORDING TO FM 10-508/TO 13C7-2-491.

Figure 4-4. Truck positioned on honeycomb stacks



Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
1	1	Through left front clevis or shackle.
2	1A	Through right front clevis or shackle.
3	2	Around right front of A-frame, under brake hose.
4	2A	Around left front of A-frame, under brake hose.
5	3	Through spring support bracket.
6	3A	Through spring support bracket.
7	4	Through tiedown shackle 1, right side.
8	4A	Through tiedown shackle 1, left side.
9	5	Through tiedown shackle 2, right side.
10	5A	Through tiedown shackle 2, left side.
11	6	Around carriage hitch bracket, right side.

Figure 4-5. Lashings 1 through 11 installed



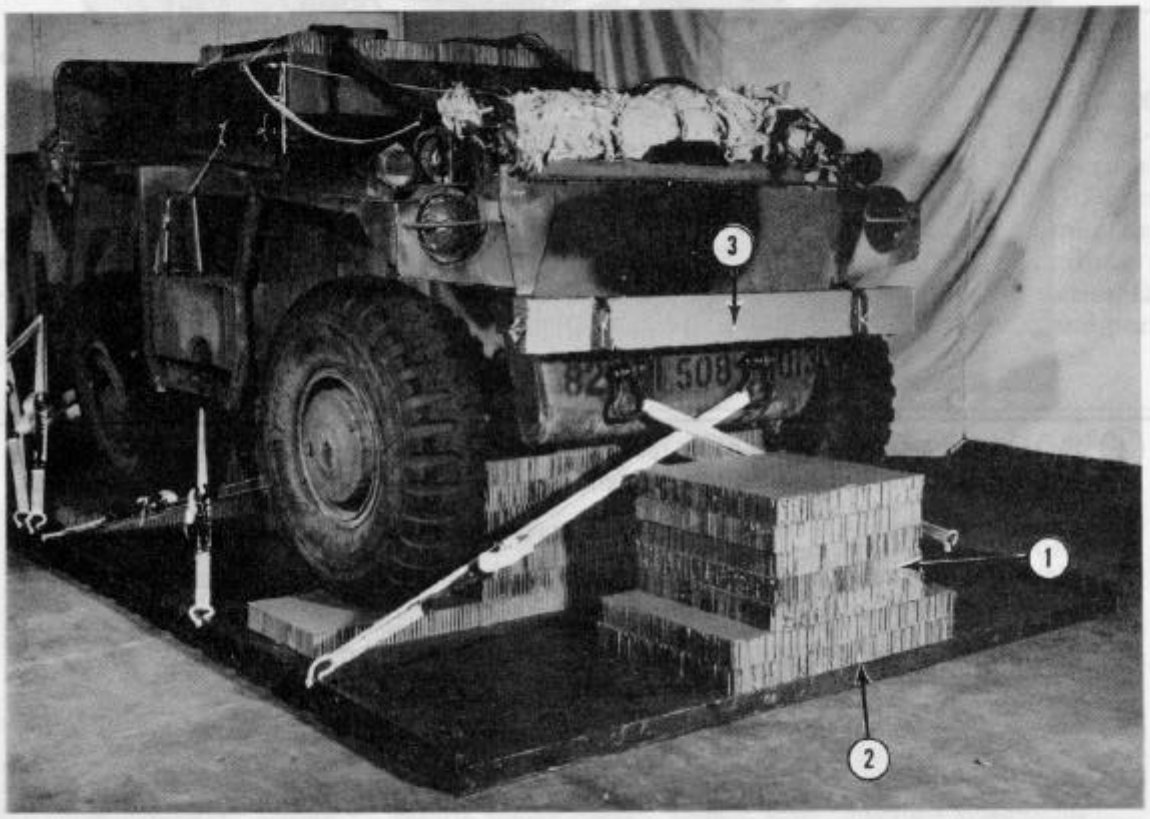
Lashing Number	Tiedown Clevis Number	Instructions
		Pass lashing:
12	6A	Around carriage hitch bracket, left side.
13	7	Around leaf spring, right side.
14	7A	Around leaf spring, left side.
15	8	Through tiedown shackle 1, right side.
16	8A	Through tiedown shackle 1, left side.
17	9	Through tiedown shackle 2, right side.
18	9A	Through tiedown shackle 2, left side.
19	9	Through towing pintle.
20	9A	Through towing pintle.
21	10	Through left rear towing shackle.
22	10A	Through right rear towing shackle.

Figure 4-6. Lashings 12 through 22 installed

4-5. Preparing, Positioning, and Securing Motorcycle

a. Prepare and position a honeycomb stack on the front of the platform as shown in Figure 4-7.

b. Prepare, position, and secure the motorcycle as shown in Figure 4-8.

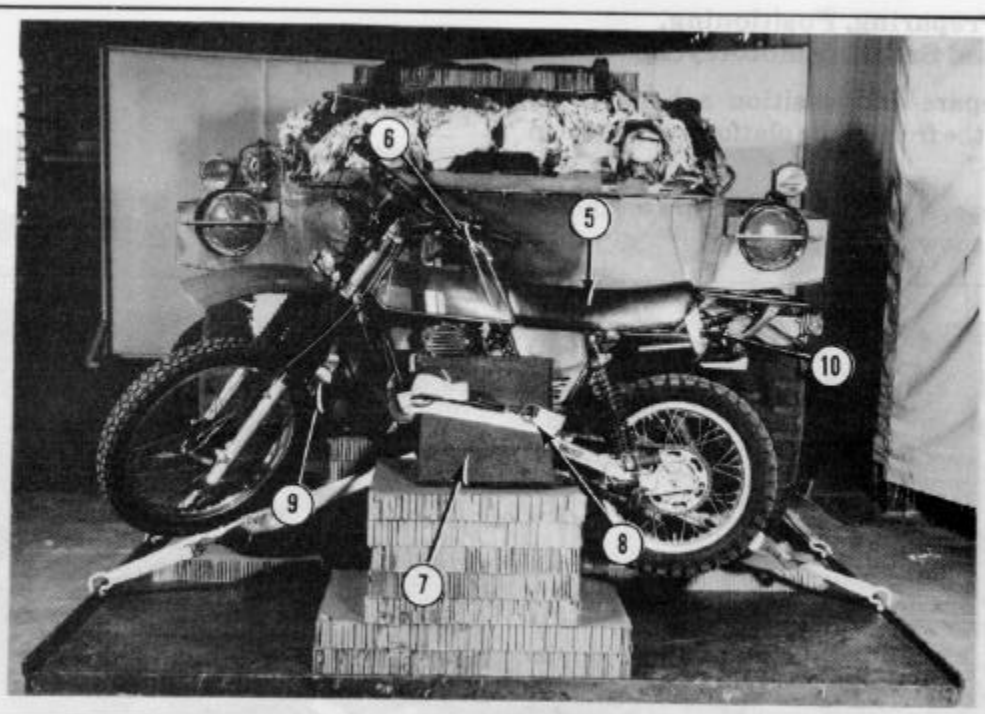


(1) Glue two 24- by 36-inch pieces and five 24- by 24-inch pieces of honeycomb together.

(2) Center the honeycomb stack on the front edge of the platform, and glue the stack to the platform.

(3) Tie a 6- by 62-inch piece of honeycomb to the front bumper with lengths of 80-pound cotton webbing. Use tape on the honeycomb to keep the webbing from cutting the honeycomb.

Figure 4-7. Honeycomb stack placed on platform



(4) Be sure that the motorcycle's fuel tank is at least one-half but no more than three-fourths full. Turn off the fuel flow handle (not shown).

(5) Center the motorcycle on the honeycomb stack with the wheel turned toward the truck.

(6) Move the footrests up. Tie the kick-start lever and the kickstand up and the handlebars down with lengths of type III nylon cord.

NOTE: ADAPT THE PROCEDURES IN FM 10-500/TO 13C7-1-5, AND LASH THE MOTORCYCLE TO THE TRUCK WITH THREE 15-FOOT TIEDOWN ASSEMBLIES.

(7) Place a 12- by 12-inch piece of 1/2-inch felt against the motorcycle's engine.

(8) Run one strap through the clevises on the truck's bumper and around the frame of the motorcycle's engine.

(9) Run a second strap around the top right suspension arm and around the frame of the motorcycle, (between the fuel tank and the handlebars).

(10) Run a third strap around the top left suspension arm and around the frame of the motorcycle (, to the rear of the seat).

Figure 4-8. Motorcycle lashed to truck

4-6. Stowing Cargo Parachutes, Installing Extraction and Release Systems, and Positioning Extraction Parachute

a. Stowing Cargo Parachutes. Prepare and stow either three G-11A or two G-11B cargo parachutes according to FM 10-500/TO 13C7-1-5 and FM 10-508/TO 13C7-2-491.

b. Installing Extraction System. Install either the PEFTC or the SL/CS extraction system according to FM 10-500/TO 13C7-1-5 and FM 10-508/TO 13C7-2-491.

c. Installing Release System. Install the parachute release system according to FM 10-500/TO 13C7-1-5 and as shown in FM 10-508/TO 13C7-2-491.

d. Positioning Extraction Parachute.

(1) C-130 aircraft. Place a 22-foot cargo extraction parachute on the load for installation in the aircraft.

(2) C-141 aircraft. Place an unreefed 15-foot cargo extraction parachute on the load for installation in the aircraft. The 15-foot parachute must have a 36-inch web adapter and a continuous 160-foot, type XXVI, nylon webbing extraction line.

NOTE: IF AN ACCOMPANYING LOAD WEIGHING MORE THAN 795 POUNDS IS RIGGED ON THE LOAD TO BE DROPPED FROM THE C-141 AIRCRAFT, A 22-FOOT CARGO EXTRACTION PARACHUTE WITH A CONTINUOUS 140-FOOT, TYPE XXVI, NYLON WEBBING EXTRACTION LINE IS NEEDED.

4-7. Marking Rigged Load

Mark the rigged load according to FM 10-500/TO 13C7-1-5 using the data in Figure 4-9. Complete DD Form 1387-2, and securely attach it to the load. Indicate on DD Form 1387-2 that the vehicles' fuel tanks and batteries have been prepared according to AFR 71-4/TM 38-250. If the load varies, the weight, height, center of balance, and parachute requirements must be computed.

CAUTION: MAKE THE FINAL RIGGER INSPECTION REQUIRED BY AFR 55-40/AR 59-4 BEFORE THE LOAD LEAVES THE RIGGING SITE.

C/B

RIGGED LOAD DATA

Weight	9,330 pounds
Height	96 inches
Width	108 inches
Length	254 inches
Overhang: Rear	14 inches
Center of balance (from front edge of platform)	127 inches
Extraction system (shown)	PEFTC

Figure 4-9. Motorcycle and truck rigged for a low-velocity airdrop

4-8. Equipment Required

The equipment needed to prepare and rig this load is the same as that listed in FM 10-508/ TO 13C7-2-491 with the additions shown in Table 4-1.

Table 4-1. Equipment required

National Stock Number	Item	Quantity
1670-00-753-3928	Pad, energy-dissipating, honeycomb,3- by 36- by 96-inch	3 sheets
8305-00-958-3685	Felt, 1/2- by 12- by 12-inch	1
1670-00-937-0271	Tiedown assembly, 15-foot	3

GLOSSARY

ACB	attitude control bar
AFB	Air Force Base
AFR	Air Force regulation
AFTO	Air Force technical order
AR	Army regulation
attn	attention
CB	center of balance
CEP	combat-expendable platform
d	penny
DA	Department of the Army
DD	Department of Defense
FM	field manual
ft	foot/feet
gal	gallon
HQ	Headquarters
IL	Illinois
in	inch
LAPE	low-altitude parachute extraction
LAPES	low-altitude parachute extraction system
lb	pound(s)
NSN	national stock number
PEFTC	extraction force transfer coupling (platform)
SL/CS	static line/connector strap
TM	technical manual
TO	technical order
TRADOC	US Army Training and Doctrine Command
US	United States
VA	Virginia

REFERENCES

AFR 55-40/AR 59-4	Joint Airdrop Inspection Records, Malfunction Investigations, and Activity Reporting
AFR 71-4/TM 38-250	Packaging and Materials Handling: Preparation of Hazardous Materials for Military Air Shipment
FM 10-500/TO 13C7-1-5	Airdrop of Supplies and Equipment: Rigging Airdrop Platforms
FM 10-501/TO 13C7-1-11	Airdrop of Supplies and Equipment: Rigging Containers
FM 10-508/TO 13C7-2-491	Airdrop of Supplies and Equipment: Rigging 1/2- and 1 1/4-Ton Trucks
FM 10-553/TO 13C7-18-41	Airdrop of Supplies and Equipment: Rigging Ammunition
TM 10-1670-208-20&P/ TO 13C3-4-12	Organizational Maintenance Manual Including Repair Parts and Special Tools List for Platforms, Type II, Modular and LAPES/Airdrop Modular
TM 10-1670-213-23	Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Parachute, Personnel
TM 10-1670-215-23/ TO 13C5-1-102	Organizational and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Parachutes, Cargo
AFTO Form 22	Technical Order Publication Improvement Report
DA Form 2028	Recommended Changes to Publications and Blank Forms
DD Form 1387-2	Special Handling Data/Certification